

STREAMING MEDIA

INTRODUCTION

Today's PC owners are taking more digital photographs, recording more video files and downloading more music than ever before. Unfortunately, these files usually end up stuck on our desktop computers. With home computers often in a spare room, the files aren't used as often as we might like.

If you already have a wireless network, though, you can use it to bring films and music back into your living room. By installing some simple server software on your computer and fitting a streaming media receiver next to your TV or hi-fi, you'll be able to watch films, listen to music or access your photos at the touch of a button.

This month, we've gathered together 11 of the latest network media receivers. These range from simple, inexpensive devices that play music to cutting-edge, high-definition video players. Whether you're a music fan or a film buff, we'll help you move away from the computer and back to the sofa.

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STREAM ON

Why trek to the computer room to be dazzled by cutting-edge audio and video? We review a selection of media receivers designed to bring all the action into your living room via a wireless network

Choosing a... Streaming Media Receiver

Streaming media files across a home network is much easier than it used to be, but it still pays to think hard before picking a media receiver. In particular, it's vital to consider what kind of equipment you need your receiver to plug into, and what type of files you'll want to play.

ARE YOU BEING SERVED?

A network media receiver doesn't store media files. Instead, they are stored on your PC and only sent to the receiver when you select one to play. This has several advantages. It makes the receivers cheaper and it allows you to keep just one copy of your files in one place, while accessing them from all over your home.

To make this work, you need to install server software on your PC. Most receivers in this group come with their own server software, while others use freely available software such as Apple's iTunes or Microsoft's Windows Media Connect (WMC). WMC is compatible with a standard called UPnP AV, so any player that works with WMC will function with the other servers and network storage devices that use this standard.

WMC is available as a free download for users of Windows XP. The latest version, WMC 2.0, is included

as part of Windows Media Player 11. We found it tricky to use, so you might prefer to download the older version at <http://tinyurl.com/yf8hqd>.

GENTLY DOWN THE STREAM

Before buying, consider the types of files you'd like to play. If you want to stream only music files, it makes sense to buy an audio-only receiver. These are smaller and often cheaper than devices that can also play video files. Most have a screen, so you can select music without turning on your TV. We've reviewed six here. If you want to view photo or video files as well, you'll need a receiver that's designed to connect to your TV; we've reviewed five.

Next you should check the formats of the files you want to stream. All the receivers play back MP3 files, but support for other audio file formats is more complicated. Have a quick look at your music collection and see which file formats you need your receiver to support. Our table on page 113 shows exactly which formats are supported by each player.

If you buy music online, things are further complicated by Digital Rights Management (DRM) technology. Protected AAC files from the Apple Music



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Store can be played only with Apple's own Airport Express. Most other stores, including Napster, use WMA-DRM files. These play on any receiver with a Plays For Sure badge. Many receivers in this review support this standard, but you'll need to use Microsoft's WMC server. Again, our table on page 111 shows which receivers play WMA-DRM files. All the multimedia receivers receive common formats such as JPEG photo images and MPEG2 video files. Check our table to see which receivers are compatible with which other file formats.

A home network of some kind is essential if you want to use any of these products. Using a wireless network saves you from having cables snaking around your house. An 802.11g wireless network is sufficient for streaming music and video files, and most players in this group even managed to stream high-definition files wirelessly in our test. If you have a wired network, though, every device here apart from the Philips SLA5520 can be plugged into it.

If you plan on using a wireless network, you must consider security. Most wireless home networks use WEP or WPA encryption. If you use WPA encryption, watch out for players that support only the older, weaker WEP standard.

WELL CONNECTED

Most audio receivers need to be connected to a hi-fi or a powered set of speakers. The exception

is the Soundbridge Radio, which has its own stereo speakers built in. Some use 3.5mm stereo line-level outputs, so you'll need a 3.5mm to stereo phono adaptor cable to connect them to a hi-fi amplifier. Some have stereo phono connections already and many also have S/PDIF digital audio outputs that are ideal for plugging into a surround-sound amplifier. All the multimedia receivers have SCART sockets, so you can easily connect them to a TV and get

a decent quality picture and sound. Most have S-video and composite video outputs, too.

If you have an HD TV, you should connect it using a video output that will produce a high-definition picture. Some receivers have an HDMI connector, which is ideal, but many others use component video instead. If you use the component, S-video or composite video outputs, you'll also need to connect an audio cable between the receiver and your TV.

How we test Streaming media devices

We tested all the receivers with a wide range of media files to see which produced the best sound and picture quality. We used an award-winning HD TV and a pair of expensive studio monitor speakers for our test.

With audio files, there is no discernible difference between the receivers when listening to music files encoded as MP3, WMA and AAC at 128Kbit/s. When using high-quality files encoded to OGG and lossless formats, we noticed the Squeezebox 3 sounded marginally better than the others, but the difference was subtle.

When it comes to video files, the quality seen onscreen is largely dependent on the quality of the source file. We did find some



◀ SCART is the best-quality connector for standard TVs, but those with HD TVs should use HDMI or component instead

players were noticeably poorer than others when playing certain file types, though, and we've mentioned this in our reviews where appropriate. Remember for the best video quality, it's best to use a component video or HDMI output.

APPLE Airport Express

★★★★

£88 inc VAT

The Airport Express doesn't look or work like any of the other media receivers in the group. It's an 802.11g wireless access point, but with a stereo 3.5mm line-level audio output that you can connect to your hi-fi.

The Express's design is clever and practical. It's compact and plugs directly into a power socket, but you can remove the plug attachment and use a standard power lead if necessary. The 3.5mm output doubles up as an optical S/PDIF out and there's a USB socket, too, so you can add a printer to your network. It has a single Ethernet port, so you can share a cable broadband internet connection. Instead of a web-based setup system, Apple supplies some simple utility software.

With no screen, buttons or remote control, you can't select your audio tracks directly from the Airport. Instead, it's controlled entirely from iTunes, so you'll have to set up a playlist, or leave iTunes on shuffle, to keep the music playing. It won't work with any server software other than iTunes, but it will play any music that iTunes itself plays.

The advantage of this system is that the Express plays music bought from the iTunes Store. It's the only streaming player that supports these files, so if you've already bought music from Apple it's the obvious choice.

The Airport Express is a neat device that's easy to set up and use with iTunes. If you buy music from iTunes, it's ideal. However, it has no screen or controls and limited server support, so it's not a good buy otherwise.



SUMMARY

- ✓ Plays music from iTunes Store
- ✓ Easy to use
- ✗ Can't browse and select music

AUDIO-STREAMING DEVICE Supports MP3, AAC, OGG (with plug-in for iTunes), Apple Lossless, Wav
PART CODE M9470B/A
SUPPLIER Mac Warehouse
08705 553555
DETAILS www.apple.com

PHILIPS SLA5520

★★★★★

£75 inc VAT



The SLA5520 is the cheapest music receiver in the group. You wouldn't think that to look at it, but pick it up and it feels like an empty plastic case. Look around the back and you can see why it's so light. There are only two connectors on the SLA5520, one of which is for power. Rather than stereo phono or S/PDIF outputs, there's a single stereo 3.5mm audio output. On the front, there's a small but bright LCD screen.

The SLA5520 is easy to set up, with a simple configuration wizard. It supports both WEP and WPA wireless security, so it's compatible with most wireless networks. This is essential, as there's no wired Ethernet socket to use instead. The remote control is easy to understand and the menus are simple and quick to respond to inputs.

Philips provides its own server software, adhering to the UPnP AV standard. It searches your PC and finds all the supported audio tracks. If you want to play WMA-DRM files bought from a store, you'll need to use Microsoft's Windows Media Connect instead. There's no support for more unusual file formats such as OGG.

Audio quality from MP3 and WMA tracks was on a par with the other players here. We found it near impossible to separate any of them, even when using a pair of excellent studio monitor speakers.

The SLA is far cheaper than most audio players here and it works well. Unless you need advanced features such as an S/PDIF output, this is a great buy.



SUMMARY

- ✓ Easy to set up and use
- ✓ Very cheap; bright display
- ✗ Only one audio output

AUDIO-STREAMING DEVICE Supports MP3, WMA, WMA-DRM (when using WMC), Wav
PART CODE SLA5520
SUPPLIER www.ebuyer.com
DETAILS www.philips.co.uk

PINNACLE Roku Soundbridge M1001

★★★★★

£140 inc VAT

The M1001 is the most stylish of the audio receivers here and is bound to attract the attention of visitors. It's a chunky silver cylinder that feels just as solid as it looks. On the back is a stereo 3.5mm line-level output as well as optical and coaxial S/PDIF outputs. There's also a wired Ethernet port for those without a wireless network.

The M1001 will work with WEP wireless security, but not with the newer and more secure WPA standard. If you have a network using WPA, you'll need to downgrade its security to let the Soundbridge connect.

No software is provided, but the Soundbridge works with an impressive range of freely available servers. As well as Windows Media Connect and other UPnP AV servers, it can work with some older versions of iTunes and SlimServer to play an impressive range of file types. It can play WMA-DRM files when used with Windows Media Connect, but it can't play music bought from the iTunes Store.

The Soundbridge has a large vacuum fluorescent display. It's bright and clear. The interface is a little confusing at first, with no stop button on the remote, for example, but we got used to it. We found no problems with sound quality in our tests.

The Soundbridge is a stylish player and its ability to connect to almost any server software is impressive. It is expensive, though, and it can't connect to WPA wireless networks.



SUMMARY

- ✓ Stylish and sturdy, great display
- ✓ Uses most server software
- ✗ Expensive, doesn't support WPA

AUDIO-STREAMING DEVICE Supports MP3, WMA, WMA-DRM (via WMC), AAC (via iTunes), OGG and FLAC (via Slimserver), WMA Lossless, Wav
PART CODE M1001
SUPPLIER www.broadbandstuff.co.uk
DETAILS www.pinnaclesys.com

PINNACLE Roku Soundbridge Radio

★★★★★

£230 inc VAT

The Soundbridge Radio looks very different from the other receivers here as it has a built-in speaker system. It's based on the technology inside the Soundbridge M1001, left, so it has the same impressive server support and the same inability to work with WPA wireless networks.

The Radio is also an alarm clock and an AM/FM radio. It has the same large VFD display as the M1001, which is ideal for use as a clock.

The rear of the Soundbridge Radio protrudes significantly to accommodate a bass speaker. The speakers inside are very good, sounding clear and well balanced, with cleanly defined bass. The volume scale is rather uneven, though. Until the volume is almost halfway up they're almost inaudible, but at top volume they're certainly loud enough.

The top of the radio has buttons for radio station presets. The top also holds a large snooze button that feels flimsy, so be careful if you're aggressive toward inanimate objects first thing in the morning. On the side is a memory card slot, so you can play music directly from SD and MMC memory cards. Below that is a headphone socket for listening alone.

The Soundbridge Radio shares the same weaknesses as the M1001: it's expensive and doesn't support WPA security. However, its speakers are excellent and its clock radio functions make it convenient for the bedroom.



SUMMARY

- ✓ Stylish and sturdy, great display
- ✓ Great speakers
- ✗ Expensive, doesn't support WPA

AUDIO-STREAMING DEVICE Supports MP3, WMA, WMA-DRM (via WMC), AAC (via iTunes), OGG and FLAC (via Slimserver), WMA Lossless, Wav
PART CODE R1000
SUPPLIER www.expansys.com
DETAILS www.pinnaclesys.com

SLIM DEVICES Squeezebox 3

★★★★★

£200 inc VAT

Like Roku's Soundbridge, the Squeezebox has a large green vacuum fluorescent display. Its resolution of 320x32 pixels makes it the biggest display here. The file-browsing interface is straightforward, so it's simple to find and play tracks.

The rear of the Squeezebox has all the connectors you're likely to need. Stereo phono outputs sit next to a pair of digital S/PDIF outputs and there's a 3.5mm headphone socket, too. A network port is also provided for those without wireless networking. Setting it up is easy, with the wizard guiding you through the process. Unlike the Soundbridge devices, it supports both WEP and WPA security.

Slim Devices uses its own open-source server called SlimServer. It runs on PCs, Apple computers and some network storage devices. It has a web interface, so you can control it from a web browser. It's not compatible with the UPnP standard, though, so if you want several players you'll need to keep buying Squeezebox products. It can't play any music bought from online stores that use DRM technology.

The Squeezebox contains a posh 24-bit digital-to-audio (DAC) converter and sounded slightly better than other players here when tested with lossless audio files. If you use standard MP3 files, though, you'd be hard pressed to tell the difference.

At £200 including VAT the Squeezebox is expensive, and it can't play most types of music bought online. If you want to play lossless audio files, though, it's the one to get.



SUMMARY

- ✓ Best for lossless music files
- ✓ Looks great, huge display
- ✗ Can't play files with DRM

AUDIO-STREAMING DEVICE
Supports MP3, WMA, AAC, OGG, FLAC, Wav, WMA Lossless, Apple Lossless
PART CODE SB3EB
SUPPLIER www.broadbandstuff.co.uk
DETAILS www.slimdevices.com

TERRATEC Noxon 2 Audio

★★★★★

£129 inc VAT

The Noxon is ugly and doesn't appear to have been designed so much as thrown together. Its odd shape is supposed to fit on top of a speaker unit that isn't yet available to buy. It has handy buttons on top, so you can use it without the remote control, but it wobbles annoyingly when you push the power button.

The Noxon has a set of stereo phono outputs, and an optical S/PDIF output as well. On the side under a sliding door is a headphone socket, plus a USB port for playing music directly from a storage device. It has a wired Ethernet port and supports both WEP and WPA wireless encryption. You can upgrade the removable wireless aerial if necessary.

Setting up the player is easy and its menu system is identical to the one used by the Philips SLA5520. Its screen isn't as good as the one used by Philips, though. It's dimmer and looks less crisp.

The Noxon is bundled with TwonkyMusic server software. It uses the UPnP AV standard, so it should work with most other players too, and it's easy to find the music you want. It's also a very small application that won't use much of your PC's power when it's running. You can play WMA-DRM music bought online if you use Windows Media Connect instead.

In use, the Noxon is similar to the Philips SLA5520. Its screen isn't as good, though, and it costs a lot more. We'd recommend the cheaper Philips or the better Roku and Slim Devices products instead.



SUMMARY

- ✓ Handy built-in buttons
- ✗ Ugly
- ✗ Philips is similar and cheaper

AUDIO-STREAMING DEVICE
Supports MP3, WMA, WMA-DRM (via WMC), Wav
PART CODE 10198
SUPPLIER www.broadbandstuff.co.uk
DETAILS www.terratec.net

D-LINK DSM-520

★★★★★

£165 inc VAT

The DSM-520 won't win prizes for its looks, with a bland grey fascia that's interrupted by a USB port for playing files from storage devices. It's slim, though, and is designed to sit under a DVD player.

The rear panel has the usual SCART, S-video and composite video outputs, as well as an HDMI socket for an HD TV. There's a single wireless antenna, which is removable should you need to fit something larger.

An onscreen wizard makes connecting wirelessly easy. Simply select the correct network and enter your WPA password. The interface is nicely designed and easy to navigate, and the well-sized remote control has clearly labelled and sensibly set-out buttons. The coloured short cut buttons are particularly handy.

D-Link provides its own UPnP AV media server, which is basic but works perfectly well. It found all our media test files and made them available to the receiver. If you want to play WMA-DRM files bought online, you'll need to download and use Microsoft's WMC server instead.

We had no problems streaming most supported audio and video files. Our HD video test wasn't as impressive, though. When using a wireless network, we saw some hiccups and dropped frames. Oddly, there's no way to browse photos by thumbnail.

The DSM-520 is easy to use and it works well. Its HDMI port is handy, but it isn't great at streaming HD video wirelessly. It's good, but the Philips SLM5500 is better.



SUMMARY

- ✓ Easy to use; good remote
- ✓ HDMI output
- ✗ HD video stutters

MULTIMEDIA DEVICE Supports MPEG1, MPEG2, VOB, WMV9, WMV-HD, DivX, XviD, MPEG4, MP3, WMA, WMA-DRM (via WMC), OGG, JPEG, TIFF, GIF
PART CODE DSM-520
SUPPLIER www.komplett.co.uk
DETAILS www.dlink.com

KISS DP-600

★★★★★

£207 inc VAT

We gave the DP-600 three stars in *What's New:*

Video, *Shopper* September 2006, but since then it has dropped in price by over £100. It has a DVD drive and is a good DVD player as well as a media receiver. We were impressed by the quality of DVD playback, but it couldn't upscale a number of test discs to HD resolutions because of Macrovision copy protection.

The back of the DP-600 has every output you'll ever need, including both component and HDMI outputs for HD playback. It also has analogue surround-sound outputs, so you can get Dolby Digital surround sound from DVDs and compatible files without needing a surround-sound decoder. There are two wireless antennae, but they aren't replaceable.

Unfortunately, the DP-600 takes a long time to start. The LCD in the front says it's loading for about 10 seconds before you can get control. The remote control feels OK but is poorly labelled and badly laid out. We had trouble navigating the slightly sluggish menu system.

The DP-600 played all the supported test files without problems.

It even streamed VOB and HD files over a wireless connection without stuttering. Photos were nicely scaled and looked crisp on our HD TV. It doesn't play WMA-DRM files, not even when using WMC as a server.

This is the biggest receiver in the group, but it can play DVDs as well. If you want a single device to replace your current DVD player too, this would be ideal, though its menu system takes some getting used to.



SUMMARY

- ✓ DVD player as well
- ✓ Plenty of outputs
- ✗ Poor menu system and remote

MULTIMEDIA DEVICE Supports MPEG1, MPEG2, VOB, WMV9, WMV-HD, DivX, XviD, MPEG4, MP3, WMA, OGG, WMA Pro, JPEG
PART CODE DP-600
SUPPLIER www.pixmania.com
DETAILS www.kiss-technology.com

NETGEAR
EVA700

★★★★

£160 inc VAT



With its curved silver front panel, Netgear's EVA700 is the most attractive of the multimedia receivers in this round-up. On the right-hand side is a USB port for playing files directly from a storage device and a 1/4" headphone socket.

The two wireless aerials on the rear aren't removable, so you can't fit a larger aerial or extension cable. All the usual video and audio outputs are included, but with no HDMI you must use component video for HD files.

The EVA700 is designed to work with Intel Viiv PCs, but when we tried one we were told we'd also need a Viiv router to access special features. Fortunately, we had no problem setting it up on an older AMD-based computer. Windows Media Connect 2.0 is included, but you could use any other UPnP AV server software.

The EVA700's menus seem unpolished and no firmware updates are yet available. Changing the volume brings up a flickering volume bar over the interface. The short cut buttons don't function in the way that you'd expect them to. The remote control is OK, but its buttons are small.

The EVA700 played our music files without any problems, but couldn't play VOB files taken directly from DVDs. We noticed more blocky artefacts than usual when watching our XviD file, but it did stream our WMV-HD file flawlessly over a wireless network.

The EVA700 works acceptably, but its interface suffers from a few niggling problems. Hopefully, these will soon be fixed via a firmware update. Meanwhile, we'd recommend the Philips SLM5500 instead.

SUMMARY

- ✓ Best-looking video player
- ✗ Bad artefacts in XVID playback
- ✗ Interface feels unfinished

MULTIMEDIA DEVICE Supports MPEG1, MPEG2, WMV9, WMV-HD, DivX, XviD, MPEG4, MP3, WMA, WMA-DRM (via WMC), JPEG
PART CODE EVA700-100NAS
SUPPLIER www.savastore.com
DETAILS www.netgear.co.uk

PHILIPS
SLM5500

★★★★★

£175 inc VAT



The Philips SLM5500 stands out in this group for several reasons. It's much smaller than the other multimedia receivers, so it's ideal if you don't have much room left under your TV. Its size limits the number of output connectors on the rear of the player, though. Most users will be happy with the SCART socket, but if you want to connect a hi-fi as well you'll need a SCART adaptor that includes a stereo phono output. These can be bought for around £10. The component video output is ideal for connecting to an HD TV and there's a coaxial S/PDIF audio output, too.

Philips provides its own server software, which is compatible with the UPnP AV standard. It successfully found all the media files on our computer and is easy to use. If you want to play WMA-DRM music, you'll have to use Windows Media Connect instead.

The SLM5500's interface is excellent and by far the best of the multimedia receivers. It's easy to get working thanks to a simple network wizard. Once connected, you can browse your files via a set of neat menus. Photos can be browsed by thumbnail and they look good when scaled to fit your television.

The single wireless aerial can't be exchanged for a larger one, but it streamed our HD test file without any problems. Every audio and video file we tried played perfectly.

The Philips SLM5500 may not have a dedicated analogue audio output, but it's still our favourite multimedia receiver. It plays music, video and photo files perfectly, and it's easy to use.

SUMMARY

- ✓ Great interface
- ✓ Small and attractive
- ✗ No analogue audio output

MULTIMEDIA DEVICE Supports MPEG1, MPEG2, WMV9, WMV-HD, DivX, XviD, MPEG4, MP3, WMA, WMA-DRM (via WMC), JPEG
PART CODE SLM5500
SUPPLIER www.broadbandstuff.co.uk
DETAILS www.philips.co.uk

PINNACLE
ShowCenter
200

★★★★★

£110 inc VAT



The ShowCenter used to be our favourite multimedia receiver. It has dropped in price significantly, but it's also been outdone by many newer models that are easier to use. It's not very attractive, but it has a USB port so you can play files from an external storage device.

The rear has all the outputs you'll need, including component video for HD files. It has two sets of stereo phono outputs, so you connect it to both your TV and hi-fi. The wireless antenna is removable, allowing you to add a larger one to get better reception.

Setting up the wireless connection is a little confusing as there are two separate ways to access the settings. You must use WMC to play WMA-DRM music. Pinnacle supplies its Media Manager server software with the ShowCenter and we recommend you use it. It gives you a clearer menu system on the ShowCenter that's easier to navigate than the simple interface used with WMC.

The ShowCenter streamed audio tracks fine, but the options for browsing other tracks while playing one are limited. It can play VOB files, but the software renames them and they stuttered over our wireless connection. DivX and Xvid files looked good and it streamed our HD test file wirelessly without problems. The ShowCenter is cheap and it does the job, but its interface works well only with Pinnacle's own server software.

SUMMARY

- ✓ Cheap
- ✓ Supports most files
- ✗ Basic interface

MULTIMEDIA DEVICE Supports MPEG1, MPEG2, VOB, WMV9, WMV-HD, DivX, XviD, MPEG4, MP3, WMA, WMA-DRM (via WMC), OGG, JPEG, TIFF, GIF
PART CODE 202262348
SUPPLIER www.savastore.com
DETAILS www.pinnaclesys.com

Alternative systems

Network media receivers aren't the only way to stream media across your home network. In fact, you might be able to do it for free using old equipment. If you have an old notebook computer, for example, you could set it up by your hi-fi and use it to play music stored on a desktop PC elsewhere.

For £200, you could buy an Xbox 360 games console. This will plug into a wired network and can then stream media files from any Windows XP computer. It supports MP3, WMA and WMA-DRM audio files, WMV video and JPEG photo files. To do all this, you'll need Windows Media Connect (WMC) 2.0, which is now part of Windows Media Player 11. An Xbox 360 is more expensive than most of the devices here, but when you get bored with music you can also use it to play games.

If you have a PC with Windows XP Media Center Edition installed, an Xbox 360 can also give you seamless access to the Media Center portion of your PC. This includes access to the electronic programme guide (EPG), live TV and any programmes you have recorded to disk. For more details, go to <http://tinyurl.com/nppzt>.

It's also worth remembering that you don't need to keep a power-hungry computer running just to stream media files. Many network storage devices have a UPnP AV media server built in. Most devices in this review can connect to this type of server; see our table opposite for details. For more information on which network-attached storage (NAS) devices are suitable, see our *Labs* test in *Shopper* June 2006.



▲ You can use gaming equipment to stream media files from any XP PC

AUDIO DEVICES

MULTIMEDIA DEVICES

MANUFACTURER	APPLE	PHILIPS	PINNACLE	PINNACLE	SLIM DEVICES	TERRATEC	D-LINK
Model	Airport Express	SLA5520	Roku Soundbridge M1001	Roku Soundbridge Radio	Squeezebox 3	Noxon 2 audio	DSM-520
Rating	★★★	★★★★★	★★★★	★★★★	★★★★	★★★	★★★★
AUDIO COMPATIBILITY							
MP3	Yes	Yes	Yes	Yes	Yes	Yes	Yes
WMA	No	Yes	Yes	Yes	Yes	Yes	Yes
Plays For Sure (WMA-DRM)	No	Yes (via WMC)	Yes (via WMC)	Yes (via WMC)	No	Yes (via WMC)	Yes (via WMC)
AAC	Yes	No	Yes (via iTunes, but not protected music)	Yes (via iTunes, but not protected music)	Yes (but not protected music)	No	No
OGG	Yes (with plug-in for iTunes)	No	Yes (via SlimServer)	Yes (via SlimServer)	Yes	No	Yes (via D-link Media Server)
Lossless codecs supported	Apple Lossless, Wav	Wav	FLAC (via SlimServer), WMA lossless, Wav	FLAC (via SlimServer), WMA lossless, Wav	WMA lossless, Apple lossless, FLAC, Wav	Wav	None
Internet radio/without PC	Yes/no	Yes/yes	Yes/yes	Yes/yes	Yes/yes	Yes/yes	Yes/yes
IMAGE COMPATIBILITY							
JPEG	No	No	No	No	No	No	Yes
TIFF	No	No	No	No	No	No	Yes
GIF	No	No	No	No	No	No	Yes
VIDEO COMPATIBILITY							
MPEG1	No	No	No	No	No	No	Yes
MPEG2	No	No	No	No	No	No	Yes
VOB	No	No	No	No	No	No	Yes
WMV9	No	No	No	No	No	No	Yes
WMV-HD	No	No	No	No	No	No	Yes
DivX/XviD/MPEG4	No	No	No	No	No	No	Yes
NETWORK INTERFACES							
Wireless standard	802.11g	802.11g	802.11b	802.11b	802.11g	802.11g	802.11g
Ethernet standard	10/100 Ethernet	None	10/100 Ethernet	10/100 Ethernet	10/100 Ethernet	10/100 Ethernet	10/100 Ethernet
Wireless encryption	128-bit WEP, WPA-PSK	128-bit WEP, WPA-PSK	128-bit WEP	128-bit WEP	128-bit WEP, WPA-PSK	128-bit WEP, WPA-PSK	128-bit WEP, WPA-PSK
AV INTERFACES							
Audio outputs	3.5mm stereo line out with optical S/PDIF	3.5mm stereo line out	3.5mm stereo line out, optical and coaxial S/PDIF	3.5mm stereo headphone	Stereo phono, optical and coaxial S/PDIF, 3.5mm stereo headphone	Stereo phono, optical S/PDIF, 3.5mm stereo headphone	Stereo phono, optical and coaxial S/PDIF
Video outputs	None	None	None	None	None	None	HDMI, SCART, S-video, composite video
Other connectors	USB2	None	None	SD/MMC card reader	None	USB2	USB2
SERVER COMPATIBILITY							
Server software included	iTunes (by download)	Pinnacle Media Manager 1.58	None	None	SlimServer 6.5 (by download)	TwonkyMusic 3.0, Elgato Eyeconnect 1.1	D-Link Media Server 1.05
UPnP/Windows Media Connect	No	Yes	Yes	Yes	No	Yes	Yes
iTunes	Yes	No	6	6	No	No	No
SlimServer	No	No	5.2.1	5.2.1	Yes	No	No
Minimum system requirements	N/A (no software included)	Windows XP/2000, 128MB RAM, 150MB hard disk	N/A (no software included)	N/A (no software included)	Windows XP/2000, 128MB RAM, 20MB hard disk	Windows XP/2000, 500MHz processor, 64MB RAM, 20MB hard disk	Windows XP/2000, 500MHz processor, 128MB RAM, 50MB hard disk
BUYING INFORMATION							
Price including VAT	£88 inc VAT	£75 inc VAT	£140 inc VAT	£230 inc VAT	£200 inc VAT	£129 inc VAT	£165 inc VAT
Supplier	www.macwarehouse.co.uk	www.ebuyer.com	www.broadbandstuff.co.uk	www.expansys.com	www.broadbandstuff.co.uk	www.broadbandstuff.co.uk	www.komplett.co.uk
Details	www.apple.com/uk	www.philips.co.uk	www.pinnaclesys.com	www.pinnaclesys.com	www.slimdevices.com	www.terratec.net	www.dlink.com
Part code	M9470B/A	SLA5520	M1001	R1000	SB3EB	10198	DSM-520

MULTIMEDIA DEVICES

BEST BUY

MANUFACTURER	KISS	NETGEAR	PHILIPS	PINNACLE
Model	DP-600	EVA700	SLM5500	ShowCenter 200
Rating	★★★★	★★★	★★★★★	★★★★
AUDIO COMPATIBILITY				
MP3	Yes	Yes	Yes	Yes
WMA	Yes	Yes	Yes	Yes
Plays For Sure (WMA-DRM)	No	Yes (via WMC)	Yes (via WMC)	Yes (via WMC)
AAC	No	No	No	No
OGG	Yes	No	No	Yes (via Pinnacle Media Manager)
Lossless codecs supported	WMA Pro	None	None	WMA Pro is converted to MP3 then streamed
Internet radio/without PC	Yes/yes	Yes/yes	Yes/yes	Yes/no
IMAGE COMPATIBILITY				
JPEG	Yes	Yes	Yes	Yes
TIFF	No	No	No	Yes
GIF	No	No	No	Yes
VIDEO COMPATIBILITY				
MPEG1	Yes	Yes	Yes	Yes
MPEG2	Yes	Yes	Yes	Yes
VOB	Yes	No	No	Yes
WMV9	Yes	Yes	Yes	Yes
WMV-HD	Yes	Yes	Yes	Yes
DivX/XviD/MPEG4	Yes	Yes	Yes	Yes
NETWORK INTERFACES				
Wireless standard	802.11g	802.11g	802.11g	802.11g
Ethernet standard	10/100 Ethernet	10/100 Ethernet	10/100 Ethernet	10/100 Ethernet
Wireless encryption	128-bit WEP, WPA-PSK	128-bit WEP, WPA-PSK	128-bit WEP, WPA-PSK	128-bit WEP, WPA-PSK
AV INTERFACES				
Audio outputs	Stereo phono, optical and coaxial S/PDIF, 6x phono surround-sound output	Stereo phono, coaxial S/PDIF, 3.5mm stereo headphone	Coaxial S/PDIF	2x stereo phono, optical and coaxial S/PDIF
Video outputs	HDMI, component, SCART, S-video, composite video	Component, SCART, S-video, composite video	Component, SCART	Component, SCART, S-video, composite video
Other connectors	USB2	USB2	None	USB2
SERVER COMPATIBILITY				
Server software included	KISS PC-LINK 1.30	Windows Media Connect 2.0	Philips Media Manager 3.2.1	Pinnacle Media Manager 1.58
UPnP/Windows Media Connect	Yes	Yes	Yes	Yes
iTunes	No	No	No	No
SlimServer	No	No	No	No
Minimum system requirements	Windows XP	Windows XP, 500MHz processor, 128MB RAM, 20MB hard disk	Windows 98 SE/Me/2000/XP (XP required to play protected content), 500MHz processor, 128MB RAM, 100MB hard disk	Windows XP, 1.0GHz processor, 256MB RAM, 10GB hard disk
BUYING INFORMATION				
Price including VAT	£207 inc VAT	£160 inc VAT	£175 inc VAT	£110 inc VAT
Supplier	www.pixmania.com	www.savastore.com	www.broadbandstuff.co.uk	www.savastore.com
Details	www.kiss-technology.com	www.netgear.co.uk	www.philips.co.uk	www.pinnaclesys.com
Part code	DP-600	EVA700-100NAS	SLM5500	202262348

Labs verdict Streaming media receivers

We were impressed by most of the media receivers in this review. Most cope well with a variety of files and a few are exceptional value.

The Philips SLA5520 is our favourite audio receiver. It doesn't support a huge range of formats, but it plays MP3, WMA and WMA-DRM music and its price is low. If you plug it into some Logitech X-230 speakers, you'll have a complete streaming audio system for just over £100. It's our Budget Buy. If you want to play high-quality lossless files, save up for the Squeezebox 3.

If you want to watch video and view photo files as well as listening to music, there are a few to choose from. The Pinnacle ShowCenter 200 is ugly, but it's cheap and it plays almost any file. D-Link's DSM-520 works well enough as long as you don't play high-definition video. However, our Best Buy is the Philips SLM500. It's small, smart, easy to use and it played our high-definition files flawlessly. 

AUDIO STREAMING DEVICES

 PHILIPS SLA5520
★★★★★



MULTIMEDIA DEVICES

 PHILIPS SLM5500
★★★★★

